"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRYUCHENKO, A.Ya.

Best section in the Debal'tsevo Division. Avtom. telem. i sviaz' 3 no.8:23-24 Ag '59. (MIRA 13:2)

1.Starshiy elektromekhanik Debal'tsevskoy distantsii signalizatsii i svyazi Donetskoy dorogi.
(Railroads--Signaling)
(Railroads--Block system)

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PETRYSZYN, C.; SZARKOWSKA, L.

Trehalase activity during metamorphosis of the hawk moth Celerio euphorbiae L. Bul Ac Pol biol 7 no.12:491-493 '59. (EEAI 9:12)

1. Institute of Biochemistry and Biophysics, Polish Academy of Sciences. Presented by J.Heller.
(HAWK MOTHS) (CELERIO EUPHORBIAE) (TREHALASE)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

MOCHNACKA, Irena; PETRYSZYN, Czesława

Trehalose in Celerio euphorbiae. Acta biochim.polon. 6 no.3: 307-311 '59.

1. Zaklad Biochemii Ewolucyjnej Instytutu Biochemii i Biofizyki Pan. Zaklad Chemii Fizjologicznej A.M. Warszawa.
(DISACCHARIDES chem.)
(INSECTS)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRYSZYN, Jerzy; LEWCZUK, Zofia

Studies on the durability of the preparation of pepsin. Przem spoz 16 no.4:68-72 Ap '62

1. Centralne Laboratorium Przemyslu Paszowego, Pracownia Biochemiczna.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

S

CONTRIBUTION TO THE PROBLEM OF PREPARATION OF MOULDING SANDS. L. Petrzela. (Huntieke Listy, 1950, vol 5, Sept., pp 353-359; Oct., pp. 406-412). In Czech. The author reviews the deficiencies of natural sands and the objects of sand preparation and reports the results of tests on processes of preparing sand. The influence of drying on the properties of green glauconite sand was determined after drying for 4 hr. at the temperatures 90°, 110°, 300° and 400° C. samples which had been prepared for periods of 5, 10, and 20 min. in a Simpson mixer. Compression strength and permeability decreased with increasing drying temperatures, but the decrease was reduced by a longer mixing time; the moisture content corresponding to optimum compression strength remained practically unchanged. The compression strength of specimens mixed in a rib type mixer, changed gradually from 900g/sq. cm. to up to 1250 g/sq. cm. after 1 hr. mixing; this reduced the optimium moisture content from about 6% to 4% after a mixing time of 60 min. In the case of sands mixed with bentonite maxium compression strength was obtained after mixing for 10 to 20 min.---E.G.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

S/081/62/000/020/030/040
B160/B144

AUTHOR: Petrykowski, Andrzej

TITLE: Properties of polyamides and injection molding parameters

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1962, 502, abstract 20P74, (Mechanik, 1961, v. 34, no. 10, 517 - 519 (Pol.)

TEXT: The technological parameters of injection molding relate to temperature of the polyamide, temperature of the mold, cooling time, pressure, injection rate. The effect of these and of the wall thicknesses of articles on the shrinkage of polyamide articles, i.e. on the accuracy of their dimensions, is discussed. Studies of six types of polyamide produced in Poland and elsewhere are given. (Abstracter's note: Complete translation.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRTYL, J.

GEOGRAPHY & GEOLOGY

PERIODICAL: CESKY LID. Vol. 42, no. 5, 1955

PETRTYL, J. E. Nohejlova-Pratova's Krasa ceske mince (The Beauty of Czech Coins); a book review, p. 235.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2, Feb 59, Unclass.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRTYL, J.

GEOGRAPHY & GEOLOGY

PERIODICAL: CESKOSLOVENSKA ETHNOGRAFIE. Vol. 6, no. 4, 1958.

PETRTYL, J. Commercial importance of the hawkers' prints in the Chrudim printing houses during the 19th century. p. 396.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 2, February 1959, Unclass.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRYS, Tibor, dr. adjunkt

The Rehbinder effect. Wiad chem 16 no.7:433-448 Jl 62.

1. Zaklad Chemii Technicznej, Politechnika, Krakow.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

AUTHORS: Petrys, Tibor and Datka, Maria POL/5-58-23-4/30

TITLE: Graphite and Disulphide of Molybdenite Application to Anti-Friction Lubricants (Zastosownie grafitu i dwusiarczku molibdenu do smarów przeciwtarciowych)

PERIODICAL: Przegląd Techniczny, 1958, Nr 23, pp 1099-1101 (POL)

ABSTRACT: The authors discuss the application of graphite and molybdenite in anti-friction lubricants. They describe friction encountered by metals (Table I) lubricated with various anti-friction lubricants. This article further gives "N.P. Petrov" friction formula and the research results of the molybdenite lubricants discussed at the International Mechanics Engineers Convention held in Bad-Ragaz, Switzerland. The Polska Katedra Fizyki Politechnika Kraków (Faculty of Physics, Polytechnic in Kraków) conducts research on molybdenite lubricants.

Card 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRYS, T.

Chemistry of the lubrication of metals. Tibor Petrys. *Chemik* (Gliwice) 12, 104–6(1959).—The following groups of lubricants are discussed: those which do not react with the surface of the metal (hydrocarbons); activated lubricants contg. additives, such as org. acids, their salts, esters, aldehydes, and CO and S contg. compds., lubricants with fillers, such as graphite and MoS_2. F. J. Hendel

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PETREK, I. [Petrek, [illegible]; [illegible], V.; [illegible], [illegible]

Relation between the latent period of [illegible] evoked potential [illegible] gyrus suprasylvicus medius and [illegible] pars anterior and the intensity of peripheral [illegible] Fiz. eksp. b[illegible] i med. 55 /[illegible] 56/ no.[illegible] [illegible]

1. Iz laboratorii vysshey nervnoy deyatel'[illegible] dir. - [illegible]-korrespondent AN Chekhoslovatskoy [illegible] Sotsialisticheskoy Respubliki prof. Ya. Crbek) i kafedry anatomii [illegible] (zav. - prof. I. Zrzavy) meditsinskogo fakul'teta Universiteta imeni [illegible], Olomouts, Chekhoslovatskaya Sotsialisticheskaya Respublika.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Contribution to the Study of the Adherence of Moulding Materials to Castings. I. Petrzela. (Reports of Czech Foundry Research: Sitiarenstvi, 1954, 2, (2), Supplement). [In Czech]. Castings in the shape of split cylinders were cast round specimens of moulding materials. It was found that baking-on of sand to grey cast iron was minimized by adding anthracite dust. Graphite and coke dust proved ineffective. Coal dust additions are not suitable for steel castings.—P. P.

Metal

Of

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Dry-molding mixtures with quartz sands. Prace. p. 89.
SLEVARENSTVI, Prague, Vol. 2, no. 12, Dec. 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6, June 1956, Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, LEV.

Slevarenske formovaci latky. (Vyd. 1.) Praha, Statni nakl. technicke literatury, 1955. 634p. (Molding materials for foundries. ost ed. illus., bibl., indexes, tables)

SOURCES: East European Accessions List (EEAL), LC, Vol 5, no. 3, March 1956

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Discuss on of J. Stejskal's article "Actual State of Exploitation of Rajec Sands." p. 67, SLEVARENSTVI (Ministerstvo strojirenstvi a Ministerstvo hutniho prumyslu a rudnych dolu) Praha, Vol. 3, No. 3, Mar. 1955

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 4, No. 12, December 1955

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

"Exothermic sleeves for risers. Prace.p.39"

SLEVARENSTVI. (Ministerstvo tezkeho stromirenstvi a Cezkoslovenska vedecka technicka spolenost pro hutnictvi a slevarenstvi) Praha, Czechoslovakia, Vol. 3, No. 8 Aug. 1955.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6 June 1959
Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

____ Petrzela, L. Casting Produced by shell molding. p. 163.

SO: Monthly List of the East European Sccessions. (EEAL). LC. Vol. 4, no. 10, Oct. 1955. Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Petrzela, L. Casting Produced by shell molding. p.196

SO: Monthly List of the East European Accessions. (EEAL). LC. Vol. 4, no. 10, Oct. 1955. Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Effect of molding materials on solidification rate of castings. p. 121.

SLEVARENSTVI Vol. 4, no. 4, Apr. 1956

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7 July 1956

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRŽELA, L.

Properties of mould materials at elevated temperatures. L. Petržela (*Slévárenství*, 1956, 4, *Rep. Czech. Foundry Res.*, 255—264).—Highest compressive strength at elevated temp. with slow heating was obtained with clay binders at 900—1000°. The thermal expansion of such mixtures is determined by the sharp sand in the mixture. In chemically hardened mixtures, max. compressive strength occurs between 450 and 550°, owing to combination of hydrated SiO_2 and Na_2CO_3. Natrification of Ca-bentonites increased strength at elevated temp. by as much as three times but had no effect on thermal expansion. (From English summary.) J. S. C.

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[illegible]

Properties of [illegible] . [illegible]

Elevaren[illegible] [illegible]

Prague, Czechoslovakia

[illegible]: [illegible] European [illegible]
[illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRŽELKA, LEV.

The production of chemically hardened molds (CO_2 method). Lev Petrželka. *Freiberg. Forsch.* F-11, 213-87 (1956).—This article briefly summarizes the present knowledge of the chemically setting mixts. which consist of sand and water glass, and which are set by CO_2. The principle of chem. setting is the development of hydrated SiO_2 by decomps. the aq. alkali silicate soln. The chem. reaction between water glass and CO_2 is given as an example: $R_2O + nSiO_2 + mH_2O + CO_2 \rightarrow R_2CO_3 \cdot qH_2O + n(SiO_2 \cdot pH_2O)$. The sand mixts. which are used for molds and cores are given for steel castings, for gray and malleable cast iron, and for nonferrous and light metal castings. The precautions required in treating the raw material and the details of propn. and storing of the mixts. are mentioned. A detailed account is given of the effect of admixts. which significantly improve and those which harm the chemically setting mixts. The effect of the kind of sand used are discussed, such as particle size, grain shape, clay cement content, mineralogical purity of sand particles above 0.1 mm., and dust content (below 0.06 mm.). The refractory properties of these chemically set mixts. are given as well as their strength after heating and cooling. Thermal expansion is considered. The importance of regenerating all the waste material is stressed, and the details of recovery are briefly described. These chemically set sands represent an important supplement to the casting industry, and their use is increasingly expanded. 63 references.

George Meister

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

[illegible], I.

Heat transmission [illegible] . Trace.

[illegible], (Stev[illegible]) [illegible], [illegible], Czechoslov[illegible]

SO: Monthly Index of [illegible] Acces[illegible] [illegible], No. [illegible] November [illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Effect of heat on grains of sand.

p. 264 (Slevarenstvi) Vol. [illegible], no. [illegible], Sept. 1[illegible], Praha, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) [illegible], VOL. [illegible], NO. [illegible], JAN. [illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

"Shell molding. Prace."

p. 99 (Slevarenstvi) Vol. 5, no. 12, Dec. 1957.
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, Lev

New device for determining permeability. Slevarenstvi 11 no.8/9: 316-319 Ag '63.

1. Statny vyzkumny ustav materialu a technologie, slevarensky vyzkum, Brno.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELKA, K.

Prospects for mechanizing and automatizing work in the textile industry. p. 113.
(Textil, Praha, Vol. 9, no. 4, Apr. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, No. 6, June 1955, Uncl

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELKA, K.

Losses during the introduction of new types of products. p. 339. (Textil, Praha, Vol. 9, no. 11, Nov. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, No. 6, June 1955, Uncl

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA L.

Chemically set foundry sands. L. Petrzela (Výzkumné ústavy těžkého strojírenství, Br[redacted], Hutnické Listy 7, 514-18, 575-85(1952).—P. preps. foundry mixts. for rapid setting by the addn. of water glass (I) to sand, e.g., sand 93, coal dust 5, water 1, and 36-38° Bé I 4.5-5.0 kg. are mixed for 5-10 min. Total water content should be 3.4-4.0%. Av. compn. of I was Na_2O 7.4-7.6, SiO_2 25.6-26.6, CaO + MgO 0.4, and other metallic oxides 0.3%. The setting is due to the action of CO_2 as per equation: Na_2SiO_3.aq. + CO_2 = Na_2CO_3.aq. + SiO_2.aq. The mixts. after setting have compression strength 8 kg./sq. cm. By the use of these mixts. foundry output can be increased 2-10 times.

Frank J. Hendel

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

USSR

15086*. Castings Produced by Shell Molding. Výroba odlitků do skořepinových forem. (Czech.) / Lev Petrzela. Slévárenství, v. 3, no. 7, July 1955, p. 198-202.

Review of production methods, including molding techniques and testing. Photographs, diagrams, graphs.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, Lev

Prospe[illegible] and foundry research. Slevarenstvi 1[illegible]

1. State [illegible] Institute of Material and Technology, Foundry Research [illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.,
ZELEZARNY, VITKOVICE, (B.P.,654-817, 10.12.48. Czechoslov.,
12.12.47 and 5.2.49)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

Ca

Properties of bentonite of Brañany (Czechoslovakia). I. Petrícka. *Hutnické Listy* 3, 335-9(1948). The properties of synthetic sands produced with bentonite from Brañany are described and compared with those of the French bentonite Clarosol FN. There is no direct relation between the swelling ability of bentonite and its mech properties. It is inadvisable to draw conclusions on mech properties of molding sand from results of swelling tests alone. E. Gros

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

45-E. Contribution to the Study of Preparation of Molding Sands. (In Czech.) Lev Petracia. Hutnicke Listy v. 5 Sept 1950. p 353-359, Oct 1950 p 406-412

Effects of various preparation and composition factors. Use of bentonites and their influence on aging of the sands. 35 ref (EIR)

METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

B

1036* Contribution to the Study of Preparation of Molding Sands. (In Czech.) Lev Petzela. *Hutnicke Listy*, v. 5, Sept. 1950, p. 353-359; Oct. 1950, p. 400-412.

Effects of various preparation and composition factors were studied. Includes study of the use of bentonites and their influence on aging of the sands. Numerous graphs. 35 ref.

METALLURGICAL LITERATURE CLASSIFICATION

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E

2-E. **Technological Evaluation of Clay Binders and Sands Used for Green Sand Casting.** (In Czech.) Lev Petrzela. *Hutnické Listy*, v. 5, June 1950 (Supplement), p. 21-43.

Derives mathematical expression for the relationship of compression strength, moisture content, permeability and binder content. Data for 20 kaolinitic and montmorillonitic samples (E18)

METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

B

1031 Technological Evaluation of Clay Binders and Sands Used for Green Sand Casting. (In Czech.) Lev. Petrzela. *Hutnicke Listy* v. 5 June 1950 (Supplement) p. 21-43.

Derives mathematical expression for the relationship of compression strength, moisture content, permeability and binder content. Presents data for 20 kaolinitic and montmorillonitic samples.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Survey of the use of the chemical hardening method in foundries. [illegible]

SLEVARENSTVI. (Ministerstvo teskeho strojirenstvi a Ceskoslovenska vedecka technicka spolecnost pro hutnictvi a slevarenstvi) Praha, Czechoslovakia. Vol. 7, no. 7, June, [illegible]

Monthly List of East European Accessions, (EEAI), LC, Vol. [illegible], No. [illegible], [illegible]
Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L.

Properties of molding materials in elevated temperatures. Tr. from the Czech. p. 65. (Przeglad Odlewnictwa, Vol. 7, No. 3, Mar 1957, Krakow, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957, Incl.

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13499* Chemical Hardening Molding Mixtures. (Czechoslovakian) L. Petrzela. *Hutnicke Listy*, v. 7, no. 10, Oct. 1952, p. 514-518, no. 11, Nov. 1952, p. 575-585.

Describes sand additives which harden quickly under effect of CO_2.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, Lev

2

2

11520* (Burning-On of Molding Materials on Castings.) Prispevek ke studiu zapecenin. Lev Petrzela. Slévárenství, v. 2; Práce Československého Vyzkumu Slévárenského, v. 1, no. 1, Feb. 1954, p. 1-12.

Method of testing; effect of C additions to sand and mold and core coatings; evaluation of results by comparison. Diagrams, micrographs, tables. 48 ref.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

Petrzela, L.

1ST AND 2ND ORDERS — PROCESSES AND PROPERTIES INDEX — 3RD AND 4TH ORDERS

S

CONTRIBUTION TO THE PROBLEM OF PREPARATION OF MOULDING SANDS. L. Petrzela. (Hutnicke Listy, 1950, vol 5, Sept., pp 353-359; Oct., pp. 408-412). In Czech. The author reviews the deficiencies of natural sands and the objects of sand preparation and reports the results of tests on processes of preparing sand. The influence of drying on the properties of green glauconite sand was determined after drying for 4 hr. at the temperatures 90°, 110°, 300° and 400° C. samples which had been prepared for periods of 5, 10, and 20 min. in a Simpson mixer. Compression strength and permeability decreased with increasing drying temperatures, but the decrease was reduced by a longer mixing time; the moisture content corresponding to optimum compression strength remained practically unchanged. The compression strength of specimens mixed in a rib type mixer, changed gradually from 900g/sq. cm. to up to 1250 g/sq. cm. after 1 hr. mixing; this reduced the optimium moisture content from about 6% to 4% after a misint time of 60 min. In the case of sands mixed with bentonite maxium compression strength was obtained after mixing for 10 to 20 min.---K.G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION — INDEX SUMMARY

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, LEV

15090* Exothermic Sleeves for Risers. Exothermické obklady nálitků. (Czech.) Lev Petrzela; *Slévárenství*, v. 3, no. 8; *Práce Československého výzkumného slévárenského*, v. 2, no. 21, Aug. 1955, p. 145-148.

Because of their control, best results are obtained with mixtures with aluminothermic reactions. Photographs, graphs, table. 23 ref.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, LEV

CZECH

The application of slags in foundries. Lev Petrzela. (Výzkumný ústav materiálu a tech., Brno, Czech.). Chem. Zvesti 8, 544-50(1954).—A lecture. Jan Micka

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELA, L. J.

Journal of Applied Chemistry
Vol. 4 Feb. 1954
Industrial Inorganic Chemistry

Bentonite moulding materials in Czechoslovakia. L. J. Petrzela (*Przegl. Odlewn.*, 1953, 3, No. 4, 109—115; *J. Iron Steel Inst.*, 1953, 175, 222).—The properties of bentonite moulding materials and their influence on foundry output are discussed. The prep. of such materials for Fe and steel castings is described. R. B. CLARKE

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

CONTRIBUTION ON THE PROPERITIES OF BENTONITE OF BRANANY (CZECHOSLOVAKIA).

L. Petrzela. (Hutnicke Listy, 1948, vol. 3, Nov., pp. 335-339). (In Czech).

The properties of synthetic sands produced with bentonite from Branany are described and compared with those of the French bentonite Claresol FE. The author also studied the relation between the swelling capacity of bentonite and its mechanical properties and concludes that there is no direct relation between the two; conclusions on the mechanical properties of moulding sand should not be drawn from results of swelling tests along. E.O.

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PETRZELA, LEV.

1/1

CZECH

5567* Dry Molding Mixtures With Quartz Sand. Formovací směsi na sušení s křemennými písky. (Czech.) Lev Petržela. Slévárenství, v. 2, Práce Československého Výzkumu Slévárenského, v. 1, no. 13, Dec. 1954, p. 89-100.

Evaluation of sand and clay mixtures for various casting conditions for steel and gray iron. Graphs, tables. 63 ref.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELE, L.

Properties of Moulding Materials at Elevated Temperatures. II. Petrzela. (*Slévarenství*, 1956, vol. 4, Oct., 61-70). Natural and synthetic mixtures were used. Compressive strength at high temp. with slow heating is highest with clay binders at 900-1000° C. Below 600° C the strength is up to twice that after drying. Over 1000° strength decreases suddenly. Thermal expansion was found to depend little on binder. Quartz sand mixtures have expansions 1·5-2%, fireclay mixtures 0·7%. Maximum strength for chemically hardened mixtures occurs between 450-550° C, over 600° it decreases. Conversion of calcium-bentonite to Na increases strength up to 3 times. The properties determined are related to crack and swell formation and to scabs and sand inclusions. Behaviour of chemically hardened mixtures is reviewed in relation to compressive strength. Scab formation is considered, and compressive strength measurements are recommended for control of natural and synthetic mixtures for dry sand and green sand castings. (54 references).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELKA, K.

New system of wages in the clothing industry. p. 18.

(Textil. Vol. 12, no. 1, Jan. 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZELKA, K.

Intrafactory transportation in the textile industry. p. 254.

TEXTIL . (Ministerstvo lehkeho prumyslu) Praha, Czechoslovakia, Vol. 14, no. 7, July 1959.

Monthly List of East European Accession (EEAI), LC Vol. 9, no. 2, Feb. 1960.

Uncl.

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[illegible]

[illegible]pecialization of workshops [illegible] industry. [illegible] [illegible] Ministerstvo lehkeho [illegible]) [illegible] Vol. [illegible], [illegible] 7, july 1954.

[illegible] East European Accessions List, Vol. [illegible], [illegible], [illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, G.T.

7 27

Oxalate compounds of quadrivalent uranium. A. A. Grimberg and G. T. Petrzhak. *Trudy Radievogo Inst. im. V. G. Khlopina, Khim. i Geokhim.* 7, 17-49(1956).—High resistance of quadrivalent uranium oxalate to air oxidation was the reason of many investigations. The hydrated K salt $K_4[U(C_2O_4)_4].6H_2O$ was prepd. The Ba salt was prepd. by $K_4[U(C_2O_4)_4] + 2BaCl_2 = Ba_2[U(C_2O_4)_4] + 4KCl$ to give the heptahydrate that after some time lost a mol. of water to form the hexahydrate. The octahydrate of the Pb salt and the heptahydrate of the Cd salt were obtained in an analogous manner. Ca^{++} reacts with $K_4[U(C_2O_4)_4]$ to yield ppts. of $U(C_2O_4)_2$ and CaC_2O_4. Magnetic susceptibility studies of $U(C_2O_4)_2$ and K, Ba, and Ca salts of $H_4[U(C_2O_4)_4]$ indicate 2 unpaired electrons. The absorption spectrum of $K_4[U(C_2O_4)_4].5H_2O$ has max. 490.0, 560.0, and 695.5 mμ, and the complex salt shows predominate character of ion bonding. G. Melnyk

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, G.I.

GRINBERG, A.A.; PETRZHAK, G.I.

Investigation of the physical and chemical properties of tetravalent uranium and thorium oxalates. Trudy Radiev.inst.AN SSSR 7:50-73 '56. (Uranyl oxalates) (Thorium oxalate)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

[illegible], GRINBERG, A.,

Paris, 1 -24 J[illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, G.I.

27 7

Slightly soluble compounds of quadrivalent uranium obtained with the aid of rongalite. A. A. Grinberg, L. E. Nikol'skaya, G. I. Petrzhak, B. V. Ptitsyn, and F. M. Filinov (Radium Inst., Leningrad). *Zhur. Anal. Khim.* 12, 92-4(1957).—Sexivalent U taken as $UO_2(NO_3)_2$ was reduced to the quadrivalent form by rongalite in acid soln. The reduction was carried out in the presence of $H_2C_2O_4$ so that the oxalate pptd. The reaction was carried out in HNO_3 of final concn. 1N, in the presence of $H_2C_2O_4$ 10% excess of theoretical value using for each mol. U 1 mol. rongalite plus 7-10% excess. With this procedure the soln. contained no more U than detd. by the soly. of the oxalate. Under similar conditions U was also pptd. as UF_4.

M. Hosch

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

GRINBERG, A.A.; PETRZHAK, G.I.; NIKOL'SKAYA, L.Ye.; PTITSYN, B.V.; FILINOV, F.M. [deceased]

New means of preparing tetravalent uranium derivatives. Trudy Radiev.inst.AN SSSR. 8:166-169 '58. (MIRA 12:2)
(Uranium compounds)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK G. I.

AUTHORS: Grinberg, A. A., Petrzhak, G. I., Zevteyev, [illegible]

TITLE: **Studies in the Chemistry of Uranium- and Thorium-Oxalates** (Issledovaniya po khimii oksalatov urana i toriya).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 195[illegible], Vol. 3, Nr 1, pp. [illegible] (USSR).

ABSTRACT: After a brief survey of literature the authors find that according to reference 6, the formulae of uranium oxalate (IV) and its derivates should be doubled. Since these conceptions were not in mutual accordance with the theory of coordination and since they were not based on any physico-chemical data, the authors charged themselves with supplying this necessity.

Complex uranium oxalates. A salt $(UC_2O_4)_2 \cdot 2K_2C_2O_4 \cdot 5H_2O$ was produced. Barium salt, as well as new representatives of this series of compounds: lead-, cadmium-, and calcium-salts were isolated by double-exchange-reactions. The two latter representatives of the uranium-IV-derivates are "abnormal" red-violet colored. The molecular conductivity of the water solutions of the potassium salts was investigated for proving the coordination-structure of the oxalates of uranium

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Studies in the Chemistry of Uranium- and Thorium-Oxalates.

salts. Respective measurements prove that the potassium salt is a 5-ion-electrolyte which decays according to the scheme:

$K_4/U(C_2O_4)_4) \rightleftarrows 4K + /U(C_2O_4)_4/^{4-}$. Previous test results - which were precisely determined meanwhile - together with data in the literature for other 5-ion-electrolytes are shown in table 1. Since the pH of the potassium salt solutions hardly deviates from the pH of the water (figure 1) at the beginning, the authors, taking account of the conductivity concluded that the coordination number of uranium in potassium salt is equal to 8. Probable equations of the interaction of the $[U(C_2O_4)_4]^{4-}$ -ion with water are set up and the further dissociation of the aquo-ions is explained. The pH consequently decreases in the course of time. The constants of stability of the afore-mentioned ions are evaluated (according to reference 12) and a value of the order 10^{-4} is obtained by potentiometric titration with HCl. The known salt $U_2(C_2O_4)_2 \cdot K_2C_2O_4 \cdot 8H_2O$ precipitates with this titration (after adding 1 mol HCl). The production of mixed salts was achieved with cerium and lanthanium (according to reference 13). There are metastable phases which gradually decay in the solution

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of uranium (IV) are not included in the formation of the covalent bonds.

Comparison of the properties of $U(C_2O_4)_2 \cdot 6H_2O$ and $Th(C_2O_4)_2 \cdot 6H_2O$.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

The authors elaborated 2 new methods [illegible] of tetravalent uranium: a) based upon an electr[illegible] $UO_2(C_2O_4)$ in presence of a surplus of oxalic a[illegible] the author

Card 3/4

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

Studies in the Chemistry of Uranium- and Thorium-Oxalates.

of rongalite on uranyl salts in an acid [illegible] necessary surplus of oxalic acid. The mole[illegible] the pH of the $U(C_2O_4)_2 \cdot 4H_2O$ resulting from the [illegible] the water solubility (comparing for $Th(C_2O_4)_2 \cdot 6H_2O$) and the [illegible] aqueous solutions of various acids were investigated and a potentiometric titration with permanganate in a H_2SO_4-milieu was carried out. 2 potential differences occur with the titration (figure 2): a) with the oxidation of U^{IV} in U^{VI}, b) at the end of the oxalate-groups. It was found that $U(C_2O_4)_2 \cdot 6H_2O$ and $Th(C_2O_4)_2 \cdot 6H_2O$ behave quite different in water solutions. The much greater [illegible] of the acidity of uranium salt, compared with the [illegible] salt was [illegible] firmed by the action of gaseous pyridine on the two hexa[illegible]. [illegible] acid properties of uranium salt are finally [illegible] solubility in diluted acids than in water. The difference [illegible] perties of acidity between the derivates of U(IV)- and Th(IV) [illegible] explained by the relation of the [illegible].
There are 4 figures, 2 tables, and 12 references, [illegible]

SUBMITTED. April 29, 1957.
AVAILABLE. Library of Congress.
Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

GRINBERG, A.A.; PETRZHAK, G.I.; YEVTEYEV, L.I.

Preparation and properties of uranium oxalic acid salts of rare earth elements. Radiokhimiia 1 no.3:300-308 '59. (MIRA 12:10)

(Oxalic acid) (Oxalatouranates)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

YEVTEYEV, L.I.; PETRZHAK, G.I.

Synthesis of the sulfate of quadrivalent uranium using rongalite. (MIRA 13:2)
Radiokhimiia 1 no.5:581-582 '59.
(Sodium formaldehydesulfoxylate)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

GRINBERG, A.A ; PETRZHAK, G. I.; YEVTEYEV, L. I.

Instability constants of oxalate complexes of uranium. Radiokhimiia 2 no.4:505-506 '60. (MIRA 13:9)
(Potassium uranium oxalate)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

24086
S/186/60/002/006/011/028
A051/A129

21 4200

AUTHORS: [illegible], A.A., Vyzhovskiy, P. N., Nikol'skiy, L. Ye.; [illegible]

TITLE: The formation of tetra-valent uranium oxalate from solutions using rongalite

PERIODICAL: Radiokhimiya, v. 2, [illegible] 6, 1960, 687 - 690

TEXT: The authors have established the conditions of precipitation of [illegible] the determination of the losses of tetra- and [illegible] uranium in filtrates using rongalite. It is shown that in the formation of low quantities of uranium the rongalite concentration in the [illegible] M. Experiments were conducted to establish the uranium [illegible] the filtrate after the formation of tetra-valent uranium oxalate. The results obtained show that at the given concentrations about 4 mg of uranium are left in the solution, whereby the losses seem to be conditioned [illegible] solubility of the tetra-valent uranium oxalate in the filtrates. The [illegible] for establishing the conditions of low-quantity formations of uranium showed that at low concentrations of uranium in

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The formation of tetravalent ...

S/186/60/002/006/010/026
A051/A129

the solution the rongalite content had to be increased as compared to the theoretically computed quantity. The deviation of the stoichiometry under these conditions is said to be due to the low rate of uranium reduction and the [illegible] of the [illegible] taking place at the same time. Further experiments were [illegible] the uranium losses resulting from the addition of small quantities of rongalite to the uranium solution already reduced which [illegible] increase [illegible] of uranium. Rongalite was added to a hydrochloric acid solution of tetravalent uranium. The results showed that the amount of uranium formed in this case was always less than in similar experiments [illegible] and decreased with time. The quantity of tetravalent uranium in [illegible] was determined with an accuracy of [illegible] mg by dissolving the residue [illegible] and titrating it with potassium permanganate. Normal [illegible] was obtained in each case at a ratio of $\frac{C_2O_4}{U} = 2$. The quantity of oxidized uranium was determined from the difference, correcting for solubility. The oxidation of uranium in the third series of experiments is thought to take place as a result of certain intermediate compounds formed in the interaction of rongalite and air oxygen. When large quantities

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24086

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A051/A129

The formation of tetra-valent ....

of rongalite are present, this phenomenon does not occur. There are 3 tables and 4 references: 3 are Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: W. H. Reas. The Transuranium Elements, 423, N.Y., 1949.

SUBMITTED: October 26, 1959.

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

S/186/62/004/003/006/022
E071/E433

AUTHORS: Grinberg, A.A., Petrzhak, G.I., Lozhkina, G.S.

TITLE: Some new salts of uranyloxalic acid

PERIODICAL: Radiokhimiya, v.4, no.3, 1962, 289-295

TEXT: The authors investigated the synthesis of salts of uranyloxalic acid with complex cations. Initially it was attempted to obtain compounds with cations $[Co(NH_3)_6]^{3+}$ and $[Co(NH_3)_4(H_2O)_2]^{3+}$ and anion $[U(C_2O_4)_4]^{4-}$ by the double exchange reaction in a neutral medium. However, these compounds were not isolated, due to their rapid decomposition caused by the oxidizing-reducing interaction between the components of the complex formed. Subsequently the reaction between chromium-hexacarbamide chloride (III) and potassium uranyloxalate was tried. A new complex compound chromium hexacarbamide uraneate $[Cr(N_2H_4CO)_6]_4[U(C_2O_4)_4]_3 \cdot 11 H_2O$, in which the anion of uranyloxalic acid is bound to trivalent complex chromium cation, was synthesized. It was shown that this compound is stable in air and can be obtained either with an excess of $K_4[U(C_2O_4)_6]_4$ or of $[Cr(N_2H_4CO)_6]Cl_3$. The compound is little soluble in water (30 mg per litre) and

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

GRINBERG, A.A., PETRZHAK, G.L.; Prinimal uchastiye YEVTEYEV, L.I.

Additional data on the solubility of tetravalent uranium oxalate. Radiokhimiia 5 no.3:319-329 '63. (MIRA 16:10)

(Uranyl oxalate) (Solubility)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

GRINBERG, A. A.; PETRZHAK, G. I.; LOZHKINA, G. S.

New salts of oxalatouranic acid. Radiokhimiia 4 no.3:289-295 '62. (MIRA 15:10)

(Oxalatouranates)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

ADAMOV, V.; GRAUDYN', L.[Graudina, L.]; PETRZHAK, K.; SOROKINA, A.

Gamma rays from inelastic scattering of 2.95 Mev. neutrons in La^{139}.
Vestis Latv ak no.5:61-64 '61.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

The determination of the decay constant of thorium by the Wynn Williams counter. K. [illegible] Petrzhak. [illegible] radium. U. S. S. R. 4, [illegible] Detn. of the const. by the recording galvanometer and by the thyratron counter gives comparable values of 5.17 × 10[illegible] years (+4%). The half-life period is 1.34 × 10[illegible] years (+4%). The effect of emanation is eliminated in these expts. The accuracy of the measurement depends on the accuracy of weighing the samples. H. M. I.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

Possibility of the formation of α radioactive nuclei in the decay of radioactive chlorine S. N. Dmitriev, K. A. Petrzhak and N. A. Perfilov. *J. Exptl. Theoret. Phys. (U. S. S. R.)* 9, 654 (1939). The disintegration of radiochlorine obtained by neutron bombardment of KaCl and $CHCl_3$ was studied in a Wilson-Williams and a low-pressure Wilson chamber, resp. The α-radioactivity found by Libby, Peterson and Latimer (C. A. 29, 7179) could not be found. Conclusion: The A primarily formed a stable and the possibility of the simultaneous existence of a stable and non-radioactive [illegible] J. H. R.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

An attempt to detect the formation and fission of trans uranium nuclei A. Polesitskii and K. A. Petrzhak (*Compt rend acad sci U R S S* 24 854 1939) in English. Fifty g of U as a salt was bombarded for 20 hrs by slow neutrons 5 10 g Ra + Be equiv in an attempt to detect the formation or fission of trans U nuclei. After bombardment the salt was dissolved in HCl and a few mg PtS_2 was ppt'd out along with the possible trans-U elements that might have been formed. The ppt measured with a Geiger-Muller counter gave several hundred impulses per min but neg results were obtained in a Wynn-Williams, as well as in a Wilson, chamber. The authors maintain that if trans-U elements are formed (and then undergo fission) the effective cross section for this process must be smaller than that of U fission or at least not greater than 10 [illegible] sq cm. Frank Gonet

Radium Inst., Leningrad

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3

Spontaneous fission of uranium

K. A. Petrzhak

Inst. for Radium Research, Phys. Tech. Inst., Leningrad

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES

ca

Spontaneous fission of uranium K. A. Petrzhak and G. N. Flerov. *J. Exptl. Theoret. Phys.* U. S. S. R. 10 [illegible] 17 1940 [illegible] 34 [illegible] By use of a method very sensitive to ionization of the products of fission [illegible] found that the uranium nucleus undergoes fission even in the absence of neutrons. The period of half decay is [illegible] and is ascribed to [illegible] years for [illegible] Also in [illegible] 28 [illegible]

METALLURGICAL LITERATURE CLASSIFICATION

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Ranges and energies of fragments in fission of uranium by fast neutrons. K. A. Petrzhak. *Compt. rend. acad. sci.* (U. R. S. S.) 27, 209-13(1940)(in English).—Two groups of fragments were found, with ranges of 16 ± 1 and 22 ± 1 mm. of air at 15° and 760 mm. Hg. The long-range group is 20-25% more intense than the short-range group; this indicates a sym. fission into fragments of nearly equal wt. (say 118 and 121) in addn. to the unsym. fission into fragments weighing 100 and 140. The min. value of the energy at the point in fission is 50 m. e. v./cm. The app. is described. G. M. Petty

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

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PETRAZHAK, K.A.

USSR/Physics - Radiation Rate

FD-2827

Card 1/1 Pub. 153-10/30

Author : Petrazhak, K. A. and Bak, M. A.

Title : Determination of Radiation Rate Falling on a Round Target from a Round Source

Periodical : Zhur. Tekh. Fiz, 25, 636-643, 1955

Abstract : The problem is solved in the form of two series which should be applied according to ratios of target and source radii. The irradiation rate on the target is tabulated in relation to the distance from source for nine ratios of target and source. Three US references.

Institution :

Submitted : June 23, 1955

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, K.A.

Isotopic composition of uranium in meteorites. K. A. Petrzhak, I. N. Semenyushkin, and M. A. Bak. Geokhimiya 1950, No. 2, 27-36.—Report of a study the purpose of which was to det. accurately the isotopic U compn. of meteorites and to compare it with that for the earth. The U^{235}/U^{238} ratio was used as a criterion of the isotopic compn. of U. The method used was based on the different probabilities of fission of U^{235} and U^{238} under the action of thermal and fast neutrons. Cross-sectional diagrams are shown for the double ionization chamber used and for the part of the nuclear reactor in which the samples were placed. A diagram showing arrangement of the exptl. app. employed is provided. The isotopic compn. of U was detd. in 4 iron meteorites and in 4 stone meteorites. For the stone meteorites the isotopic compn. of U in the chondrules and cementing material was detd. Samples of earth origin were prepd. from pitchblende. Detns. had a statistical accuracy of 2-4%. All values of K were found to be equal to 1.00 ± 0.02, where $K = K_T/K_F$, and where K_T is the intensity of fission of U by thermal neutrons and K_F is that produced by fast neutrons. The isotopic compn. of U in meteorites and for the earth was found to be the same within an accuracy of 3-4%. It was concluded that (1) the U on earth and in meteorites apparently has a common origin, (2) the law of radioactive decompn. of U on earth and in meteorites is the same, and (3) in places of occurrence of meteorites, neutron fields are absent. 23 references. Gladys S. Macy

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Petrzhak, K.A.

3

534.23 : 535.11 : 536.33 : 538.56

6455. RADIATION FROM A SPHERE IN THE PRESENCE OF SELF ABSORPTION. M.A.Bak, K.A.Petrzhak and Yu.F.Romanov.

Zh. tekh. Fiz., Vol. 26, No. 2, 379-84 (1956). In Russian.

A mathematical treatment of a sphere with a uniform rate of radiation throughout and a constant coefficient of absorption (μ). It is shown that the effect of absorption depends on μR where R is the radius and a table is given for $0 \leq \mu R \leq 10$.

J.M.Hough

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, K. A.

V6932

DETERMINATION OF ABSOLUTE YIELD FROM NEUTRON SOURCES. M. A. Bak, K. A. Petrzhak, and Yu. F. Romanov. Uspekhi Fiz. Nauk 59, 667-84(1956) Apr. (In Russian)

A review is given of works published up to 1955 on the question of determining the absolute number of neutrons emitted per sec by neutron sources. Results of the works are completely tabulated giving the comparative data on the type of sources, quantity of Ra or Rn, and the Be absorbers, the type of detectors, and the neutron yield from the Rn + Be and Ra + Be sources. (N.V.J.)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, K.A.

Spontaneous fission of heavy nuclei. Atom.energ.supplement no.1:152-181 '57. (MIRA 10:10)

(Nuclear fission)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, K.A.; SEMENYUSHKIN, I.N.; BAK, M.A.

Uranium isotopes in meteorites. Biul.Kom. po opr.abs.vozr.geol. form. no.2:38-40 '57. (MIRA 10:4)

1. Radiyevyy institut im. V.G. Khlopina AN SSSR.
(Uranium--Isotopes) (Meteorites)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

120-4-3/35

AUTHORS: Bugorkov, S.S., Malkin, L.Z., Petrzhak, K.A., Yakovlev, V.A. and Yakunin, M.I.

TITLE: Ionisation Chambers for Alpha Particle Counting (Ionizatsionnyye kamery dlya scheta al'fa-chastits)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.4, pp. 16 - 19 (USSR)

ABSTRACT: The construction and properties of 5 ionisation chambers for alpha particle counting are described.
No.1: A universal camera for alpha particles emitted within a solid angle of 2π (Fig.1). This camera is used for measurements on alpha-active materials deposited on one or both sides of a thin plate. It can also be used to estimate the degree of alpha-activisation of the inner surfaces of hemispherical platinum cups after various chemical procedures.
No.2: A camera for measurements in a solid angle which is less than, or equal to, 2π (Fig.4).
No.3: A camera for measuring alpha activities of liquids (Fig.5).
No.4: A camera with a solid angle (0.01 - 0.001) x 2π (Fig.6).
No.5: An argon filled camera (Fig.7). This is used to measure intensities of the order of 2 x 10^5 counts/min and also

Card1/2

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Petrzhak, K. A.

USSR/Physical Chemistry - Some Questions Concerning Systemic Structure [illegible] of Matter.

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3480.

Author : N.P. Avdonin, K.A. Petrzhak.
Inst : Lensovet Institute of Technology, Leningrad.
Title : Study of (, n) and (, f) Reactions of Th^{232} by Radio Chemical Method with -Quantum Energy up to 13 Mev.

Orig Pub: Tr. Leningr. tekhnol in-ta im. Lensoveta, 1957, vyp. 40, 5-15.

Abstract: Photoreactions of Th^{232} were studied. A betatron was used as the source of γ-radiation. The Th specimens were irradiated with γ-quanta of $7 \leq E \leq 13$ Mev. The number of fission events was measured by the activity of Mo^{99} and Ce^{143} with $T_{\frac{1}{2}} = 67$ and 33 hours respectively. The integral cross section ratio of two concurring processes - photofission and photoneutron emission - was measured. Radioactive chains with mass numbers 143, 117, 113, 99, 97 and 91 were separated.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PA - 2718

AUTHOR PETRZHAK, K.A., BAK, M.A., FERSMAN, B.A.,

TITLE Determination of the Absolute Number of Neutrons emitted by a Radium-Beryllium Source by Comparison with a Photoneutron-Deuterium Source. (Opredeleniye absolutnogo chisla neytronov, ispuskayemykh radiy-berilliyevym istochnikom, sravneniyem s fotoneytronnym deyteriyevym istochnikom., Russian)

PERIODICAL Atomnaia Energiia, 1957, Vol 2, Nr 4, pp 319-326 (U.S.S.R.)
Received 5/1957 Reviewed 6/1957

ABSTRACT The authors develop a comparatively simple method realizable in any laboratory for the gauging of neutron sources. For the purpose of determining this absolute neutron number two problems have to be solved. 1) Determination of the absolute number of photoprotons produced in a given volume with gaseous deuterium at a known pressure and at a known temperature. The gas is then replaced by heavy water and by this a so-called primary neutronstandard is produced which emits a certain number of neutrons. 2) By comparison with this primary standard the absolute numberof neutrons is obtained which is emitted within the time unit of the Ra-Be-source. Experimental arrangement is discussed on the basis of a drawing. The ionization chamber consists of a nickel hollow sphere and a hollow brass finger serves as collecting electrode. Recording of the photoprotons is given step by step. The relative neu-intensities of the γ-D-source and of theRa-α-Be source were determined by comparaison of the integral spatial distributions of slow neutrons in water. The neutrons were howed down by water which is con-

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK K. A.

RUMANIA/Nuclear Physics - Installations and Instruments. Methods [illegible] of Measurement and Research

Abs Jour : Ref Zhur - Fizika, No 4, 1959, No 7451

Author : Bak M.A., Gorshkov G.V., Matviyenko V.I., Petrzhak K.A., Romanov Yu.F.

Inst : Radium Institute, Academy of Sciences, USSR, Leningrad

Title : Radon Neutron Sources

Orig Pub : Bul. Inst. politechn. Iasi, 1957, 3, No 1-2, 47-54

Abstract : By measuring the spatial distribution of the neutron density in H_2O, the authors have determined the power and the average energy of the neutron sources Rn-Be, Rn-B, Rn-C, Rn-CaF_2, Rn-M_2, Rn-Al, and Rn-Si (the α n reaction). The absolute neutron yield from the various sources was determined by comparing the integral distributions of the slowed-down neutrons from the investigated and from a standard Rn-Be source. The mean energy of the neutron spectra was estimated from the magnitude of the relaxation length (L), determined from the measurements of the distribution of the density of the

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

STARIK, I.Ye.; PETRZHAK, K.A.; SHATS, M.M.; SEMENYUSHKIN, I.N.; BAK, M.A.

Isotopic composition and abundance of uranium in meteorites.
Meteoritika no.16:126-130 '58. (MIRA 11:8)
(Meteorites) (Uranium)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

AUTHORS: Kovrigin, B.S., Petrzhak, K.A. SOV/89-4-6-6/30

TITLE: Investigation of the Statistical Distribution of Events of Spontaneous Fission of U^{238} on the Basis of the Energies of Two Fission Fragments (Issledovaniye statisticheskogo raspredeleniya aktov spontannogo deleniya U^{238} po energiyam dvukh oskolkov)

PERIODICAL: Atomnaya energiya, 1958, Vol 4, Nr 6, pp 547-554 (USSR)

ABSTRACT: By means of an apparatus consisting of a double ionization chamber, 2 amplifier channels, a coincidence scheme, and a double-beam momentum oscillograph the kinetic energy of each of the two fission fragments was measured namely for 780 cases of the spontaneous fission of U^{238} and about 4500 cases of the fission of U^{235} with slow neutrons.

On the basis of these data the statistical distribution of the acts of spontaneous fission and of fission with slow neutrons over the energy of the two fission fragments was drawn. With the aid of this distribution the following curves were constructed for both kinds of fission

1.) Energy spectrum of all fission fragments, both light and heavy.

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Investigation of the Statistical Distribution of Events of Spontaneous Fission of U^{238} on the Basis of the Energies of Two Fission Fragments SOV/89-4-6-6/30

2.) Distribution of the acts of fission over the total kinetic energy of both nuclear fragments.
3.) Mass distribution of fission fragments.
4.) Dependence of the total kinetic energy of both fission fragments on the mass ratio of fission fragments.
5.) Dependence of the kinetic energy of light and heavy fragments on the total kinetic energy

For both kinds of fission the respective curves take the same course.

The following are the characteristic properties of the fission spectra

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Investigation of the Statistical Distribution of Events of Spontaneous Fission of U^{238} on the Basis of the Energies of Two Fission Fragments SOV/89-4-6-6/30

	Spontaneous fission		Fission with slow neutrons	
	Light fragments	Heavy fragments	Light fragments	Heavy fragments
Most probable energy in MeV	90.0±0.3	54.4±0.4	92.3±0.12	56.6±0.15
Half width of peak in MeV	17.9	21.1	19.2	23.5
Ratio of most probable energies	1.6		1.63	
Ratio between the peak of light and that of heavy fragments	1.13		1.15	
Ratio between the height of the saddle separating the peaks and the height of the peak of light fission fragments	0.33		0.42	

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

Investigation of the Statistical Distribution of Events SOV/ 89-4-6-6/30
of Spontaneous Fission of U^{238} on the Basis of the
Energies of Two Fission Fragments

[illegible] and 16 references

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PETRZHAK, K. A.

BARON, N.M.; KVYAT, E.I.; PODGORNAYA, Ye.A.; PONOMAREVA, A.M.; RAVDEL', A.A.; TIMOFEYEVA, Z.N. Prinimal uchastiye VASIL'YEV, I.A.. MISHCHENKO, K.P., red.; PETRZHAK, K.A., red.; LOBINA, N.K., red.; LEVIN, S.S., tekhn.red.; FOMKINA, T.A., tekhn.red.

[Short reference handbook of physicochemical constants] Kratkii spravochnik fiziko-khimicheskikh velichin. Pod red. K.P.Mishchenko i A.A.Ravdelia. Izd.3., dop. Leningrad, Gos.nauchno-tekhn. izd-vo khim.lit-ry, 1959. 122 p. (MIRA 13:2)
(Chemistry, Physical and theoretical--Charts, diagrams, etc.)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630006-9

PETRZHAK, K.A.

6) PHASE I BOOK EXPLOITATION SOV/2713

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh: polucheniye i primeneniye izotopov (Reports of Soviet Scientists: Production and Application of Isotopes) Moscow, Atomizdat, 1959. 388 p. (Series: Its: Trudy, vol. 5) 8,000 copies printed.

Eds. (Title page): G.V. Kurdyumov, Academician, and I.I. Novikov, Corresponding Member, USSR Academy of Sciences; Ed. (Inside book): Z.D. Andreyenko. Tech. Ed.: Z.D. Andreyenko.

PURPOSE: This book is intended for scientists, engineers, physicians, and biologists engaged in the production and application of atomic energy to peaceful uses; for professors and graduate and undergraduate students of higher technical schools where nuclear science is taught, and for the general public interested in atomic science and technology.

COVERAGE: This is volume 5 of a 5-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy held in Geneva from September 1 to 13, 1958. [illegible] tains 52 reports on 1) modern methods for the production of [illegible] active isotopes and their labeled compounds, [illegible] with the aid of isotopes in the field of [illegible] building, and agriculture, and 5) dosimetry of [illegible] 6 was edited by: S.V. Levitskiy, Candidate of [illegible] Prusakov, Candidate of Chemical Sciences, and V.I. [illegible] Medical Sciences. See Sov 2713, for titles of volumes of the set. [illegible] ences appear at the end of the article.

16. Ribergal', A.V., V.I. Karpov, and V.I. Sinitsyn. Cobalt Sources of High Intensity for Radiative Action (Report No. 2[illegible]) [illegible]

17. Gusev, N.G., Ye. Ye. Kovalev, and V.I. Popov. Gamma Radiation Inside and Outside Extended Sources (Report No. 2[illegible]) 211

18. Aglintsev, K.K., M.A. Bak, V.V. Bochkarev, Ye.L. Grechova, L.V. Terebova, and K.A. Petrzhak. Systems of Radiometric Measurement of Radioactive Isotopes (Report No. 2[illegible]) [illegible]

19. Aglintsev, K.K., V.P. Kaserkin, V.V. Nitrofanov, and V.V. Smirnov. Application of Nuclear Spectroscopy Methods to Beta and Gamma-ray Dosimetry (Report No. 250[illegible]) [illegible]

20. Baranov, P.S., V.I. Gol'danskiy, and V.S. Rospanov. Instrument for Measuring Small Streams of High-energy Neutrons (Report No. 2[illegible]) [illegible]

21. Chubakov, A.A., V.I. Polikarpov, and V.A. Khlebnova. Measuring and Analyzing Air Contamination by Low Concentrations of Aerosol Alpha Emitters (Report No. 2140) [illegible]

22. Zalenskiy, O.V., V.L. Vernesenskiy, and O.A. Semikhatova. Photosynthesis Studies by Quantitative Radiometric Methods (Report No. 21[illegible]) [illegible]

23. Bakitin, Yu.V. and A.V. Krylov. Studying the Transfer, Distribution, and Transformation of Certain Physiologically Active Compounds in Plants (Report No. 21[illegible]) [illegible]

24. Osmar, I.I., Ye.Ye. Kravtina, and A.Ye. Petrov-Spiridonov. Rhythm of Absorption and Secretion in Roots (Report No. 2[illegible]) [illegible]

25. Akhromeyko, A.I. and V.A. Shevtsova. Effect of the Rhizospheric Microorganisms on the Absorption and Secretion of Phosphorus and Sulfur by the Seedling Roots of Woody Plants (Report No. 2[illegible]) [illegible]

26. Baranov, V.I. and N.D. Profanova. Absorption of Phosphorus Tracers by Cultivated Plants in Relation to Their Resistance to Cold (Report No. 2513) [illegible]

27. Andreyev, S.V., A.V. Voyevodin, V.A. [illegible], and A.V. Khotyanovich. Some Results of Using Radioactive Isotopes for Plant Protection (Report No. 2309) [illegible]

Alloys of Zirconium and [illegible] by the Radioactive Isotope Method (Report No. 2[illegible]) [illegible]

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